INTERACTIVE METHOD AND SYSTEM FOR MANAGING PHYSICAL EXAMS, DIAGNOSIS AND TREATMENT PROTOCOLS IN A HEALTH CARE PRACTICE

FIELD OF THE INVENTION

The invention relates to an automated health care management system and more specifically relates to a graphical and interactive medical office management system for automatically generating client education information, conducting a physical examination, diagnosing medical conditions, and managing a therapy protocol.

BACKGROUND OF THE INVENTION

With rising health care costs, it is imperative that health care providers provide health services efficiently and cost effectively. At the same time, the administrative demands of medical record keeping, billing and managing a medical practice have become more burdensome. In particular, health care providers must be thorough and keep detailed records of medical exams to accurately document observations and services that have been provided. A number of software tools are available to help assist physicians in conducting medical diagnoses and medical record keeping. However, these tools have a number of deficiencies.

Some software programs used to diagnose medical problems start with the physician making a tentative diagnosis, and then proceed to collect medical observations which support, or clarify the tentative diagnosis. This can lead to inaccurate conclusions since the medical exam is likely to be biased by the original diagnosis.

Another limitation of many software systems used in medical practices is that they do not effectively manage the workflow within the hospital. In addition to diagnosing medical problems, it is useful to have a system for tracking the flow of patients in a hospital or medical office. Present systems do not effectively integrate workflow tracking with medical diagnosis functions.

Another limitation of existing software systems for medical practices is that they do not integrate treatment or therapy within the medical exam process. This is a significant drawback in medical diagnosis software because it does not provide the client or patient with information that will help them understand the cause of an ailment or educate them so that they can make educated decisions on treatment of it.

SUMMARY OF THE INVENTION

The invention provides a computer-implemented method and system for tracking workflow through a medical facility (e.g., hospital, clinic, office, etc.), managing medical exams of patients in the facility, and managing a treatment protocols for the patients. The medical exam portion of the system is used to guide a health care provider through an exam, generating context-sensitive questions and possible diagnoses. One implementation of the invention is specifically adapted for a veterinary practice, where the client is the pet owner and the patient is the client's pet. However, the features of the invention can also be used in human medical practices.

When installed in a medical office or hospital, the system software of the invention can be executed in a network configuration or in a stand-alone computer. The system software displays interactive user interface screens for conducting an interactive medical exam, generating diagnoses of abnormal observations, and managing a treatment protocol. The treatment protocol can be integrated with the interactive medical exam component of the system. For example, the doctor can select a treatment protocol from a user interface displaying computer generated diagnoses. In response, the system schedules the treatment protocol such that future interactive exam sessions display reminders to perform services in the protocol, and prompt the user to make observations related to the selected diagnoses. Once the physical exam is complete, and has been signed off by the doctor, the examination results are read-only. Additional, or subsequent medical observations may be added to the medical record through the use of medical notes. Medical notes may either be pre-formatted, or free-hand.

The interactive medical exam component of the system displays physical exam screens that guide the user through a complete medical exam. The screens display predetermined observations and enable the user to select among the observations to record abnormal findings. The system dynamically updates the patient's record and evaluates the input to generate additional context sensitive prompts to record additional observations.

At the end of an exam, the system evaluates the abnormal observations and generates a list of possible diagnoses. The system displays an interactive diagnosis screen including a list of the diagnoses. The user can then select from the list generated by the system (the rule out list) to select tentative diagnosis. As the user does so, the system updates a list of abnormal findings to show whether they are resolved by the selected diagnosis. The user can then prescribe a treatment protocol by selecting a tentative diagnosis.

The system includes a scheduler that automatically updates the patient's records to reflect that the patient is under treatment. In subsequent interactive physical exam sessions managed on the system, the physical exam screens display status information about the treatment protocol. This feature helps to ensure that the treatment protocol will be followed in subsequent physical exam sessions.

Additional features and advantages of the invention will become more apparent from the following detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a block diagram of a computer that serves as an operating environment for medical office management software.

FIG. **2** is a block diagram illustrating a computer network for managing client and patient medical data in a veterinary hospital.

FIG. **3** is an example of a status screen used to check the status of a patient in the hospital.

FIG. **4** is an example of a physical exam overview display generated by an implementation of the invention.

FIG. **5** illustrates an example of an interactive physical exam display used to record information about a patient's overall condition.

FIG. **6** illustrates an example of a supplemental user interface screen that is triggered in response to an abnormal observation to prompt the user for additional input related to the abnormal observation.

FIG. **7** is an example of an interactive user interface screen used to prompt the user for graphical input of medical observations using a graphical depiction of a patient's anatomy.

FIG. **8** is an example of a graphical display depicting the doctor's signature to prompt the doctor to verify medical observations entered into the system.